What is Claimed is:

1. An access point for use in a mixed traffic wireless local area network that includes a plurality of remote terminals that are associated with the access point with at least one of the remote terminals being voice-capable, where the access point and the remote terminals communicate by transmitting and receiving variable-size communications data packets and voice packets on a half-duplex communications medium that is shared between the access point and the remote terminals, said access point being configured to:

determine which remote terminals are voice-capable remote terminals;

receive a plurality variable size packets including voice packets and data packets from the half-duplex communications medium and from another communications medium with the packets each being addressed to a particular one of the remote terminals;

distribute the received packets by transmitting one packet at a time on the half-duplex communications channel when the half-duplex communications medium is available;

determine which one of the remote terminals to transmit to next based on maintaining fair packet distribution among the remote terminals where fairness is determined by the number of packets that have been transmitted to each remote terminal; and

determine which packet to transmit next from the received packets that are addressed to the remote terminal to which the access point is to transmit next based on:

for packets that are addressed to voice-capable terminals, giving priority to voice packets by transmitting received voice packets that are addressed to a particular voice-capable terminal before transmitting data packets that are addressed to that particular voice-capable terminal, and

the order of reception of the packets that are addressed to the remote terminal to which the access point is to transmit to next,

so that the access point treats all the remote terminals fairly while giving priority to voice packets that are for the voice-capable ones of the remote terminals.

2. The access point of claim 1, being further configured to receive an acknowledgment packet from each remote terminal that is transmitted by each remote terminal in response to the remote terminal having received each packet that is addressed to that remote terminal.

3. The access point of claim 2, being further configured to discard packets for which an acknowledgment packet has been received.

4. The access point of claim 2, being further configured to discard each transmitted packet when an acknowledgment packet has been received for the transmitted packet.

5. The access point of claim 4, being further configured to discard each packet after the packet has been retransmitted a predetermined number of

times without the access point having received at least one acknowledgment packet in response to the transmission of the packet.

6. The access point of claim 5, being further configured to determine how many times to retransmit unacknowledged packets based on whether the packet that is being retransmitted is for pending voice communications.

7. The access point of claim 6, being further configured to:

use frequency hopping spread spectrum radio communications to communicate on the half-duplex communications medium; and

after a predetermined number of retransmissions, delay further retransmission until after a frequency hop.

8. The access point of claim 1, being further configured to use a contention window that is used to sense when the channel is available, said window having at least two different durations with one of the two being selected based on whether the next packet that is to be transmitted is for providing voice communications.

9. The access point of claim 8, being further configured to determine which packets are voice packets for providing voice communications.

10. The access point of claim 8, being further configured to use a contention window of a

first duration for voice packets that are to be transmitted and use a contention window of a second duration that is longer than said first duration for other packets that are to be transmitted.

11. The access point of claim 1, being further configured to have a plurality of separate queues, each respective queue including the received packets that are addressed to a respective one of the terminals.

12. The access point of claim 11, wherein the plurality of queues are of equal size.

13. The access point of claim 1, being further configured to use a collision sense multiple access communications protocol to communicate with the remote terminals on the half-duplex communications medium.

14. The access point of claim 1 being further configured to receive information from the voice-capable terminal that indicates to the transceiver that the terminal is voice capable.

15. The access point of claim 14, being further configured to determine which packets are voice packets based at least partly on which the packets are addressed to voice-capable terminals.

16. The access point of claim 1, being further configured to:

receive variable size packets from the half-duplex communications medium and from another communications medium in a plurality of communications protocols; and

determine the communications protocol of the packets.

17. The access point of claim 16, being further configured to determine which packets are voice packets communications based at least partly on which protocol is determined.

18. The access point of claim 17, being further configured to determine which packets are for voice packets based at least partly on the determined communication protocol being user datagram protocol.

19. The access point of claim 1, wherein, when the wireless local area network is a collision sense multiple access communications network, said access point being configured to use a collision sense window duration that is shorter in duration for voice packets than in duration for data and other packets.

20. The access point of claim 1, being further configured to have a plurality of queues each queue being associated with one of the terminals and each queue storing the packets that are addressed for the terminal that is associated with that queue.

21. The access point of claim 20, being further configured to have queues of equal size.

22. The access point of claim 4, being further configured to determine which packet to transmit next based on transmitting any voice packets that are addressed to the remote terminal to which the access point is to transmit to next before transmitting data packets that are being retransmitted for that remote terminal.

23. A communication system, comprising:

the access point defined in claim 1; and

a plurality of remote terminals that are associated with the transceiver.

24. An access point that provides voice and data communications for use in a wireless local area network having a plurality of mobile units, at least one of said mobile units being voice-capable, said access point being configured to:

receive signals carrying communications packets directed to particular mobile units, and

prioritize communications packets for transmission based at least partly on whether each packet is directed to a voice-capable mobile unit.

25. A method for providing voice and data communications for use in a wireless local area network having an access point and a plurality of mobile units, at least one of the mobile units being voice-capable, comprising:

receiving signals at the access point which carry communications packets directed to particular mobile units; and

prioritizing received communications packets for transmission based at least partly on whether each packet is directed to a voice-capable mobile unit.

26. A transmitter for use in a carrier sense multiple access communications system, said transmitter being configured to:

use a contention window of a first duration for transmitting packets that are for voice communications; and

use a contention window of a second duration that is different from said first duration for transmitting other packets.

27. The transmitter of claim 26, wherein the first duration is shorter than the second duration.

28. The transmitter of claim 26, wherein said transmitter is an access point of said communications system.

29. The transmitter of claim 26, wherein said transmitter is a remote terminal in said communications system.

30. The transmitter of claim 26, wherein said transmitter is configured to prioritize packets for transmission based at least partly on whether each packet contains information indicating that the packet is for voice communications.

31. The transmitter of claim 26, wherein said transmitter is an access point for use in said communications system, said transmitter being further configured to prioritize the packets that are for transmission to each mobile unit.

32. A method for transmitting packets for use in a carrier sense multiple access communications system, comprising:

using a contention window of a first duration for transmitting packets that are for voice communications; and

using a contention window of a second duration that is different from said first duration for transmitting other packets.

33. The method of claim 32, wherein the first duration is shorter than the second duration.

34. The method of claim 32, wherein using a contention window of a first duration and using a contention window of a second duration are performed at an access point in said communications system.

35. The method of claim 32, wherein using a contention window of a first duration and using a contention window of a second duration are performed at a mobile unit in communications system.

36. The method of claim 32, further comprising prioritizing packets for transmission based at least partly on whether each packet contains

information indicating that the packet is for voice communications.

37. The method of claim 32, wherein, using a contention window of a first duration and using a contention window of a second duration are performed at an access point in said communications system, said method further comprising prioritizing packets for transmission separately for each mobile unit.